

HELLO

Katie Springer, Indiana State Data Manager
Indiana State Library

Kathy Lamb Kozenski, Executive Director
Geography Educators' Network of Indiana, Inc.

We are wearing three hats today for this presentation:



Represent organizations savvy with spatial data



Review your basic map skills & introduce geospatial jargon



Introduce “Mapping the Nation”

Are you Geographically Literate? (or Globally Competent)

Geography is the study of human systems and physical systems and the interactions within and between these systems, from a spatial perspective. For example, human systems incorporate cities, transportation routes, waste disposal, sharing of ideas, immigration, education... Physical systems focus on the study of the physical Earth (or Mars or the universe): climate, tsunamis, earthquakes, mountain ranges, water... Generally, people think of the study of geography using maps, but many additional resources are utilized, especially in the 21st century: GPS, satellites, UAV's/airplanes, mobile ground vehicles, Internet, portable tools, apps... Geography relies upon data and information that is analyzed from a spatial perspective. Gathering data, managing the data, analyzing the data, solving problems and planning for the future – based on the data >>> this is the realm of 21st century geography.

Geo-literacy is a new term for a long-standing idea consisting of three components: interactions, interconnections, and implications. It is the ability to use geographic understanding and geographic reasoning to make far-reaching decisions. It is the ability to apply geographic thought to understand how our world works. All members of society should be geographically literate. Whether we are making decisions about where to live or what precautions to take for natural hazards, we all make decisions that require geo-literacy throughout our lives. (National Geographic)

What is global competence?

"Having an open mind while actively seeking to understand cultural norms and expectations of others, and leveraging this gained knowledge to interact, communicate and work effectively in diverse environments." William Hunter, Ed.D., 2004

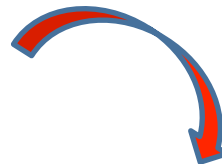
Today's economy is characterized by increasing uncertainty, accelerating interdependence and an expanding diversity of stakeholders. In this global context, finding solutions, meeting challenges and seizing opportunities requires individuals' readiness to transcend traditional boundaries. The new paradigm calls for aligning people, processes and practices across not only geographies but across languages and cultures. (About GCAA)

(Take the Global Competence Aptitude Assessment at <http://www.globallycompetent.com/home.htm>)

Many of us think that geographic literacy is the same as global literacy or international literacy, and some of us see the subtle differences and nuances that define each as a separate area of study. Luckily, in Indiana, we all work together!!!

In geography, the term "text" means not only the written word but also includes maps, charts, diagrams, images, photographs. Text is meant to be read and interpreted for a variety of purposes.

Let's see



Basic Review...

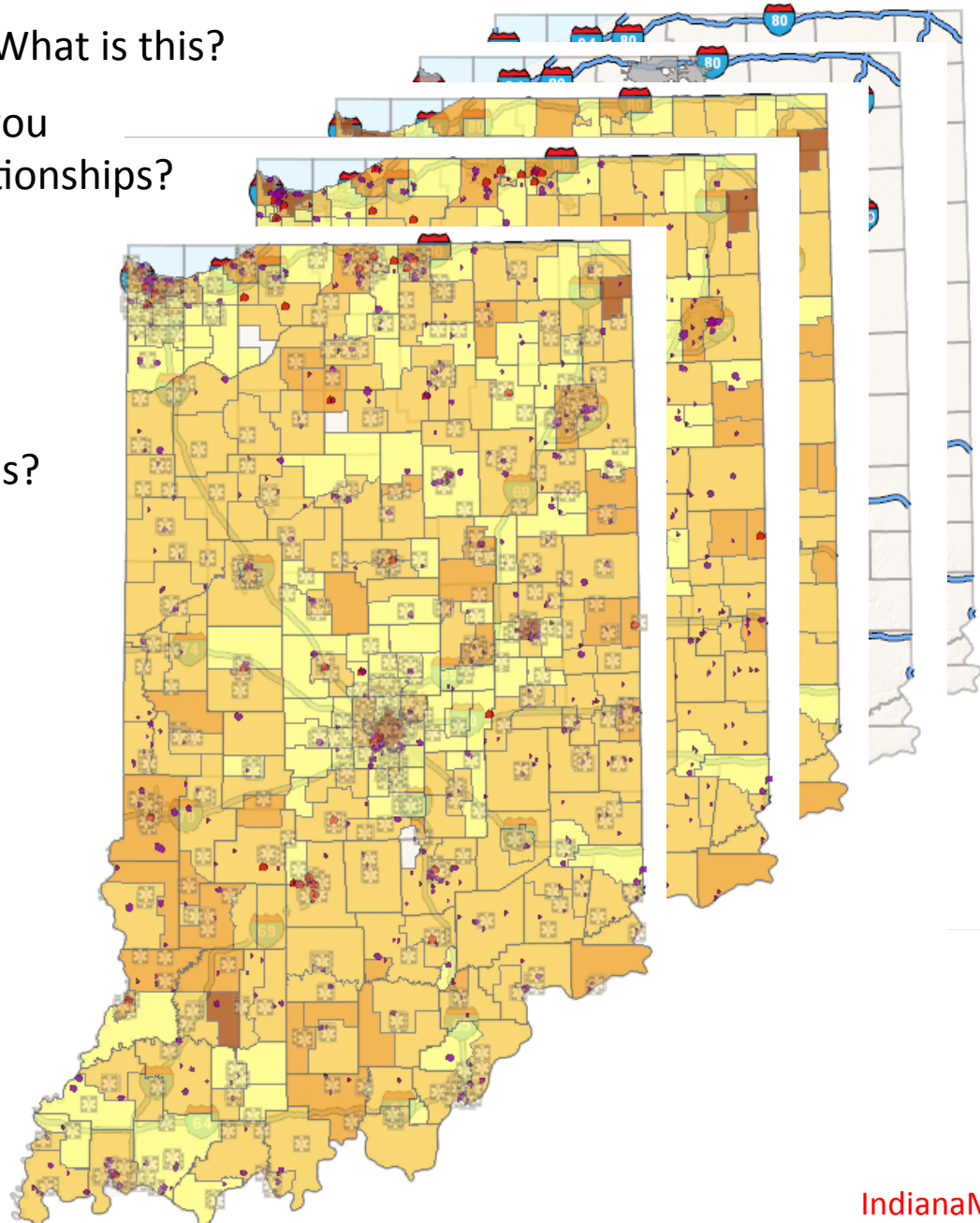
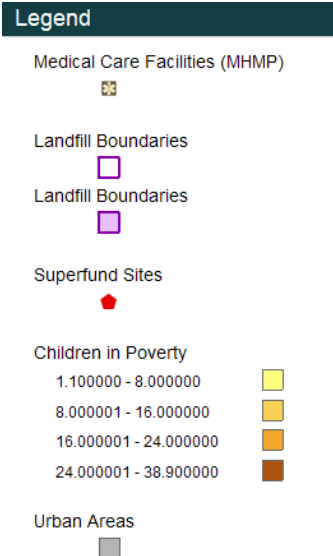
What is this?

If we add urban areas, do you notice any patterns or relationships?

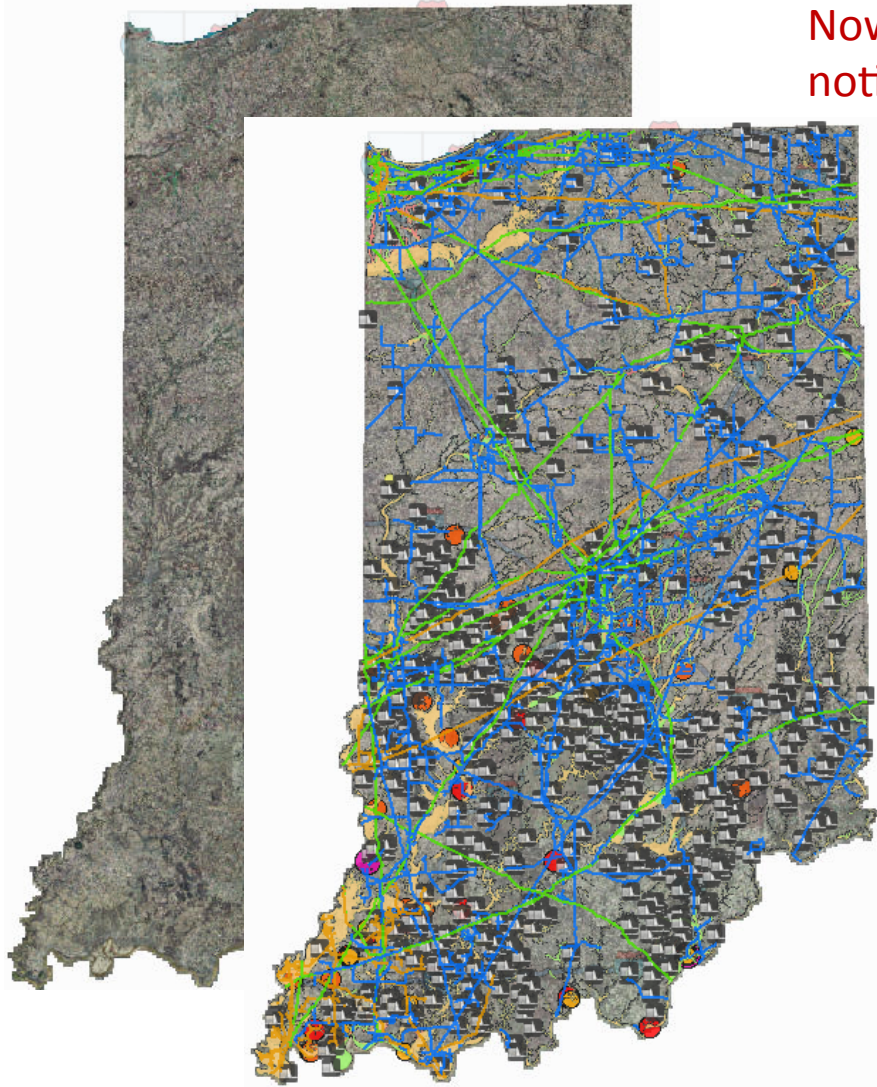
If we add information about children in poverty, do you notice any patterns or relationships?

Superfund sites or remediation areas?

Medical facilities?



Now what data/information is displayed? Do you notice anything unusual or unique?



Legend

Pipelines (IGS)

Crude Oil

Natural Gas

Refined Products

Dams 1996 (EPA)



Floodplains - FIRM

0.2% Risk (aka 500-year Flood Zone)

1% Risk (aka 100-yr Flood Zone)

Floodway

Earthquake Epicenters

3.0 - 4.0

4.1 - 5.0

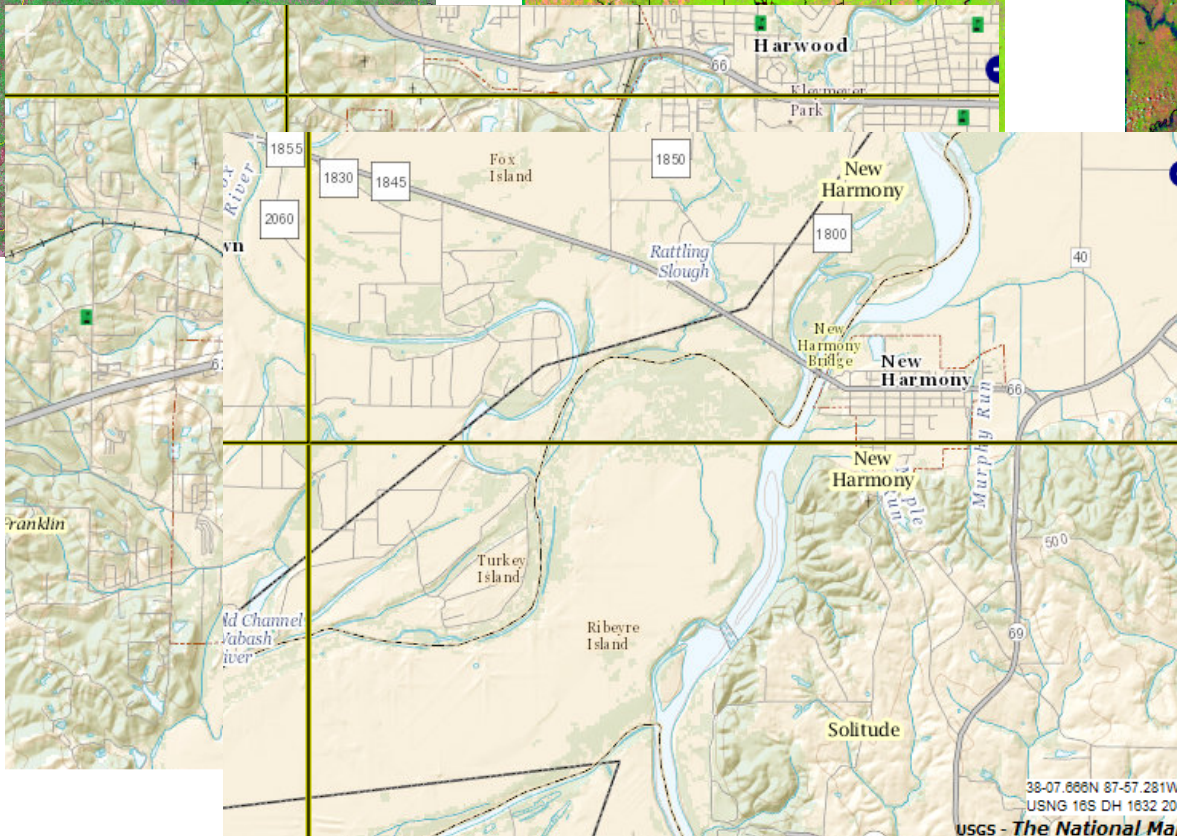
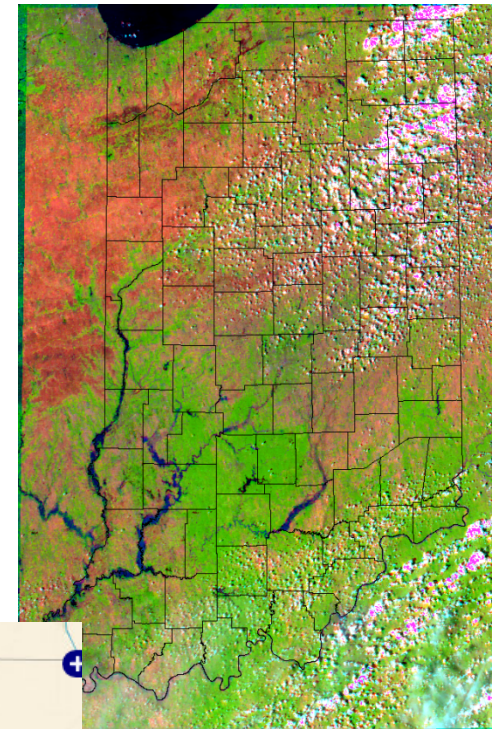
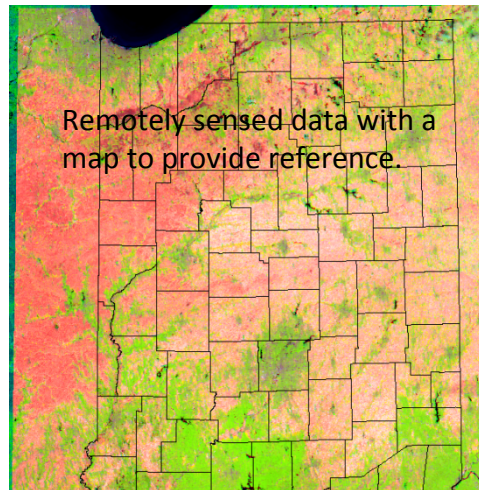
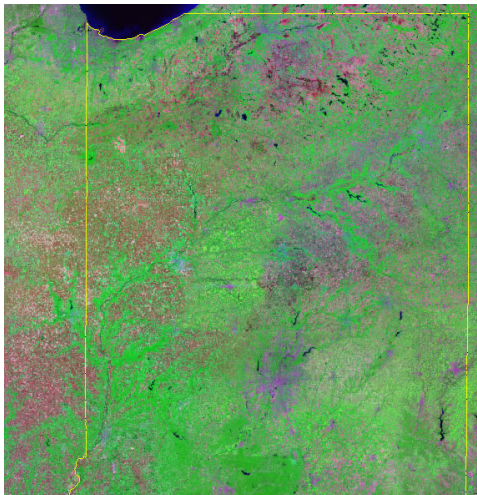
5.1 - 6.0

State Boundary



Review: Points, Layers, Remote Sensing, GIS

How do communities create a disaster preparedness plan without this type of spatial information?



USGS Landsat
June, 2008
(infrared)

How does a flood event impact a community? Spatial data helps create plans.

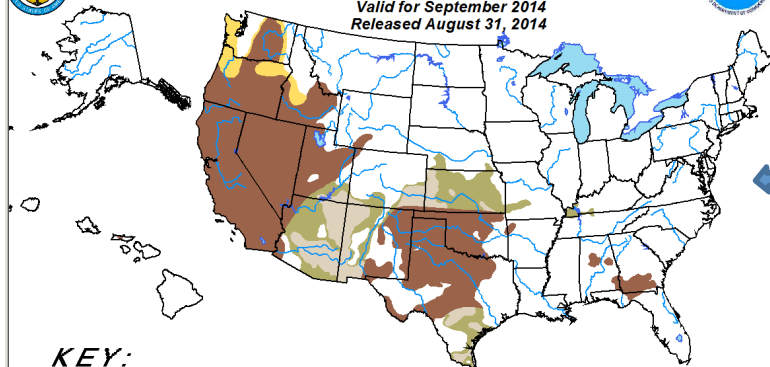


U.S. Monthly Drought Outlook

Drought Tendency During the Valid Period

Valid for September 2014

Released August 31, 2014



KEY:

- Drought persists or intensifies
- Drought remains but improves

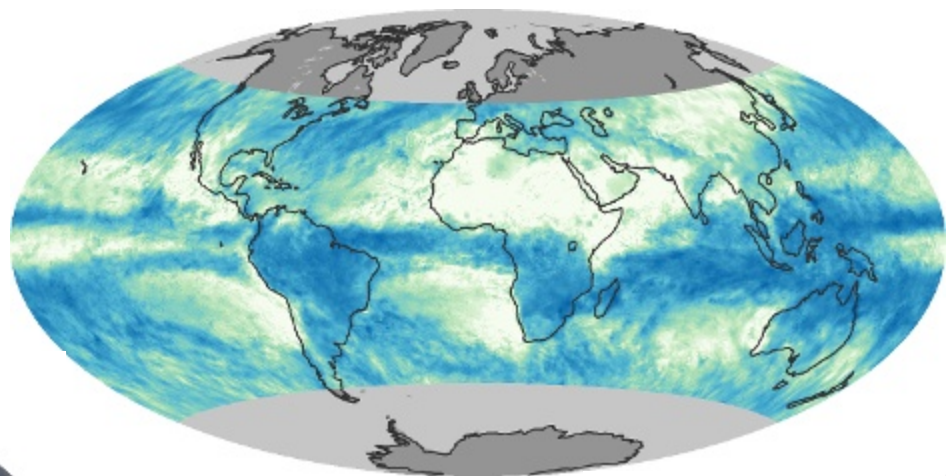
Author: David Miskus, Climate Prediction Center, NOAA
http://www.cpc.ncep.noaa.gov/products/expert_assessment/mdo_summary.html

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events – such as individual storms – cannot be accurately forecast more than a few days in advance. Use caution for applications

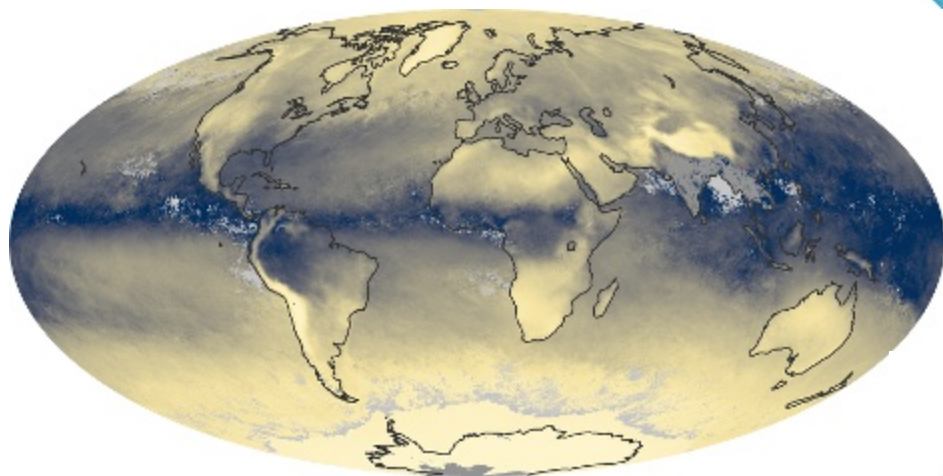
This is a map.



Notice any patterns or relationships?

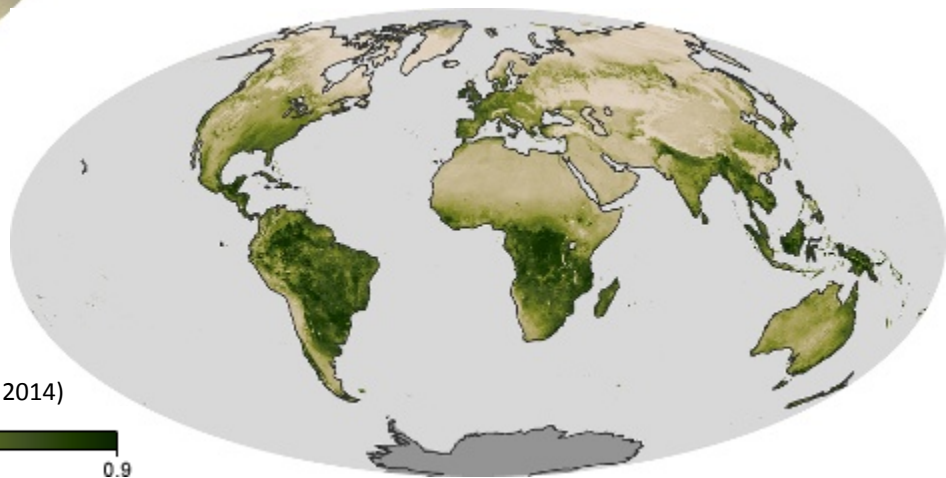
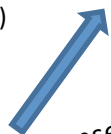


Total Rainfall (May, 2014)



Global Water Vapor (June, 2014)
NASA

This is remotely sensed imagery displayed onto a map.

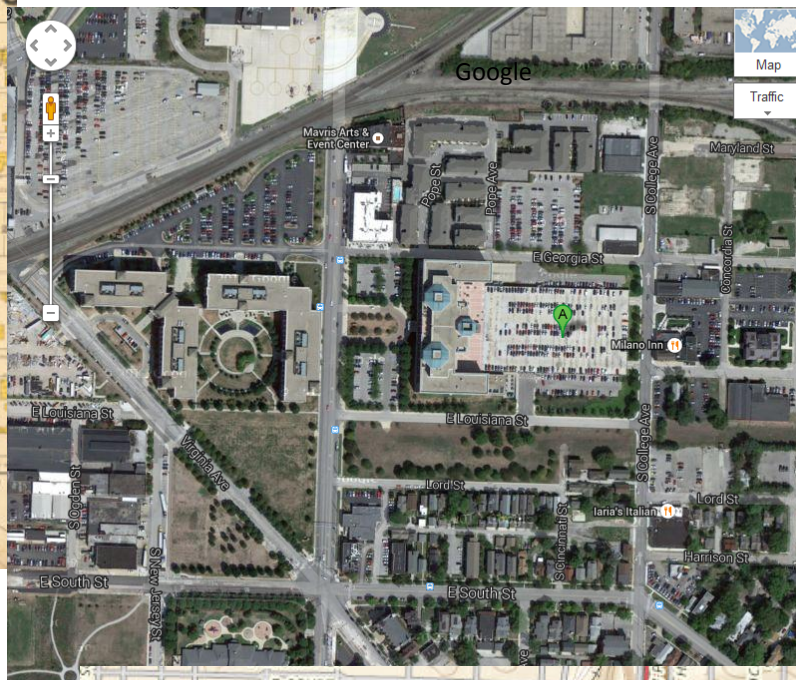


Vegetation (May, 2014)

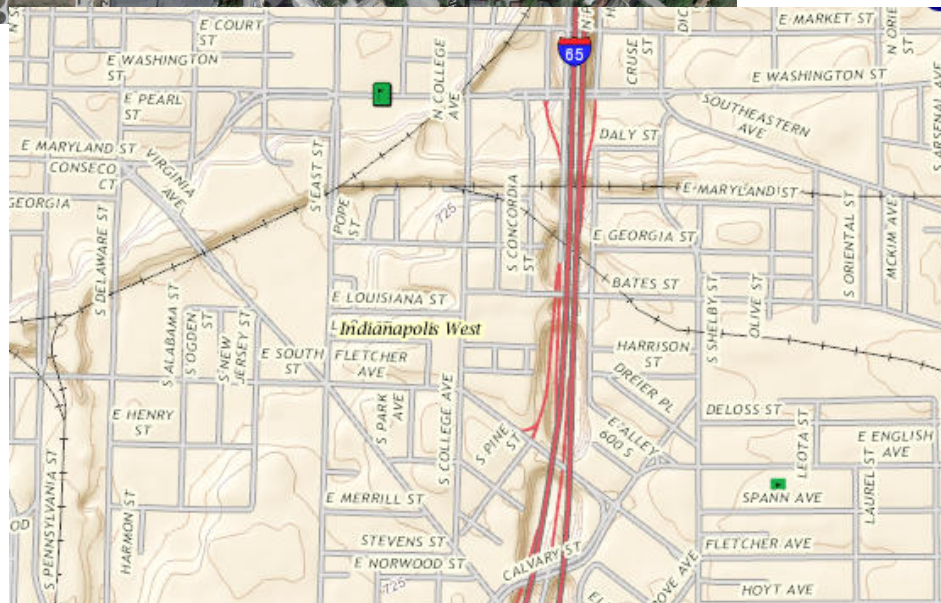




Historic Sanborn Insurance Map
IUPUI University Library &
Indiana Spatial Data Portal @ IU



Google image



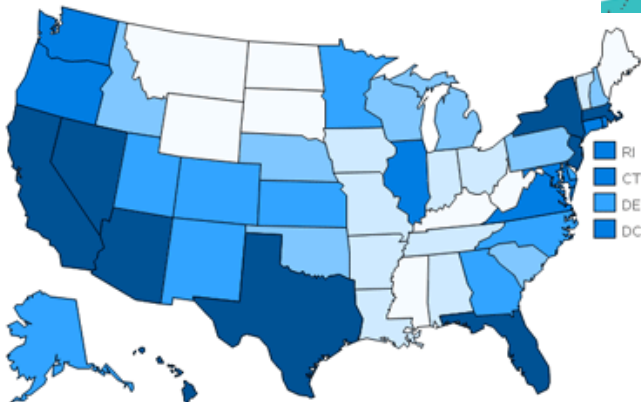
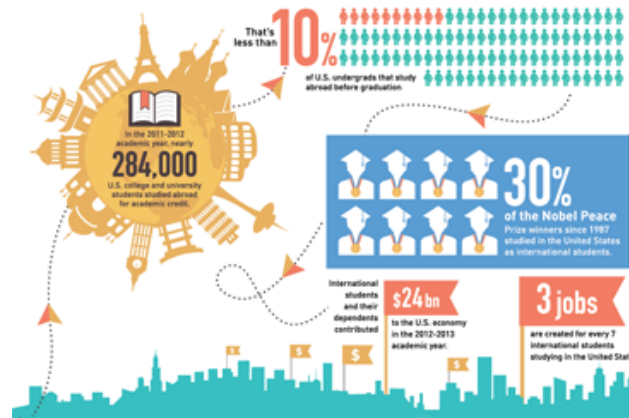
USGS topographic map

Great data resources, local and global:

- Indiana State Library
- IndianaMap
- US Census Bureau
- World Bank
- CIA World Fact Book
- USGS
- ESRI

Mapping the Nation

Is Indiana ready for a global future?



A global literacy project from
The Asia Society and The Longview Foundation

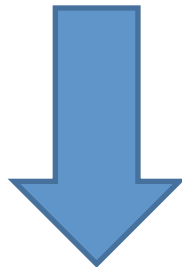
Mapping the Nation: Linking Local to Global

- New interactive map pulls together demographic, economic, and education indicators.
- Data available at state and county level.
- Nearly one million data points show that the United States is truly a global nation.
- The project is a partnership of the Asia Society, the Longview Foundation, and SAS Institute.
- Education data contributed by the American Council on Teaching Foreign Languages, College Board, Council on Standards for International Education, Institute of International Education, Institute of International Education, Migration Policy Institute, Modern Languages Association, Sister Cities International, and Association of International Educators.

Purpose: to grow a globally competent (geographically literate) citizenry and workforce

Mapping the Nation >>> Dynamic Tools

- **Infographics** for each state highlighting statistics and gaps:
 - International Trade
 - Study Abroad
 - Second Language Acquisition
 - More
- State narratives and resource links give information on what is happening in each state and who to contact for additional information.
- Tool kit to assist those interested in advocacy.

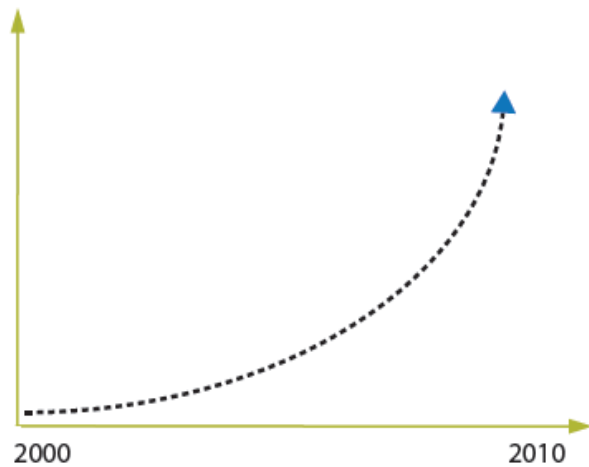


Global

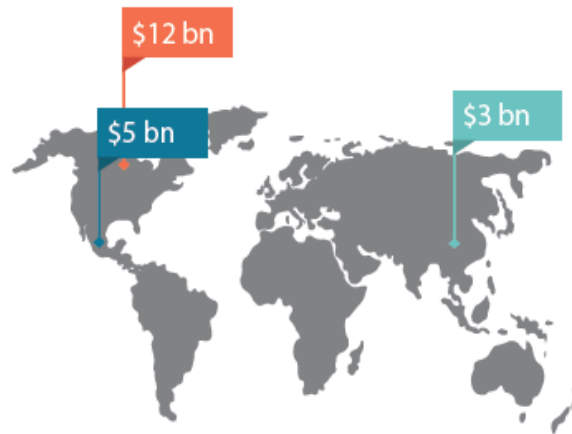
Indiana

How global is Indiana?

Changing demographics and economic opportunities show we're more global than ever.



60% increase in the foreign-born population
Eight percent of residents speak a language other than English at home.



#11 ranking among U.S. states in goods exports
Canada, Mexico and China are our top export markets.



21% of jobs are tied to international trade
That's one out of every five jobs in the state.

JOBS TIED TO INTERNATIONAL TRADE

23 million jobs in 50 states

States with the most jobs tied to international trade: Each of these states has one million or more direct jobs in exports of goods or services:

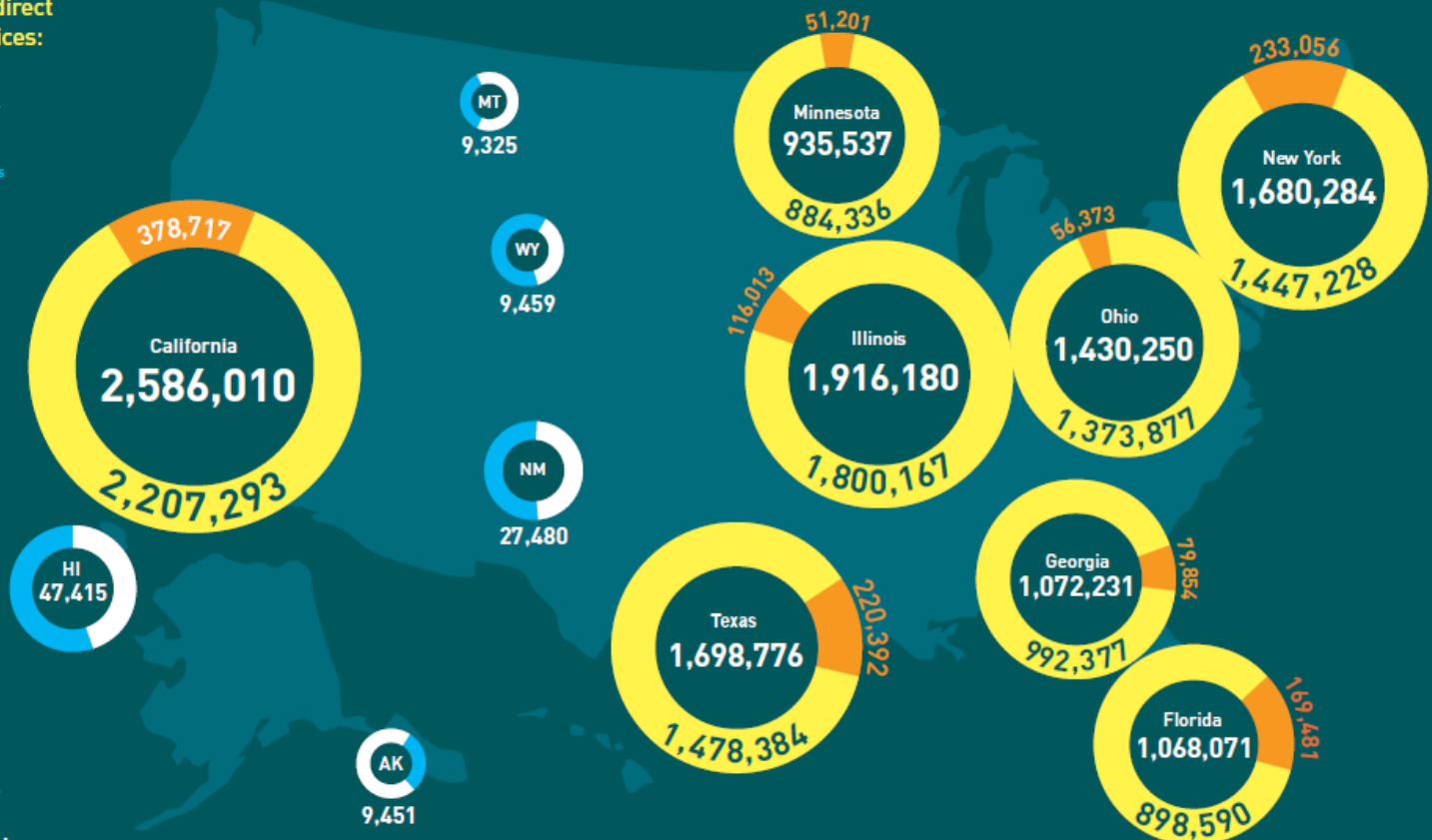
● Goods - Jobs ● Services Jobs

Trade Benefits Every State

State	Total Direct Jobs	State	Total Direct Jobs
AL	194,437	MT	9,325
AK	9,451	NE	114,872
AZ	212,335	NV	159,046
AR	97,160	NH	56,180
CA	2,586,010	NJ	980,228
CO	248,746	NM	27,480
CT	839,240	NY	1,680,284
DE	28,369	NC	626,480
DC	67,072	ND	15,240
FL	1,068,071	OH	1,430,250
GA	1,072,231	OK	75,266
HI	47,415	OR	220,206
ID	98,324	PA	821,386
IL	1,916,180	RI	95,016
IN	351,760	SC	202,930
IA	142,824	SD	58,212
KS	109,600	TN	554,444
KY	202,475	TX	1,698,776
LA	115,134	UT	92,971
ME	57,043	VT	22,915
MD	150,341	VA	387,806
MA	751,613	WA	698,410
MI	935,537	WV	27,683
MN	1,127,919	WI	440,502
MS	69,164	WY	9,459
MO	266,511		

In these states, jobs in service exports are equal to or outnumber jobs in goods exports:

● Goods - Jobs ● Services Jobs



IN = 351,760

International Education

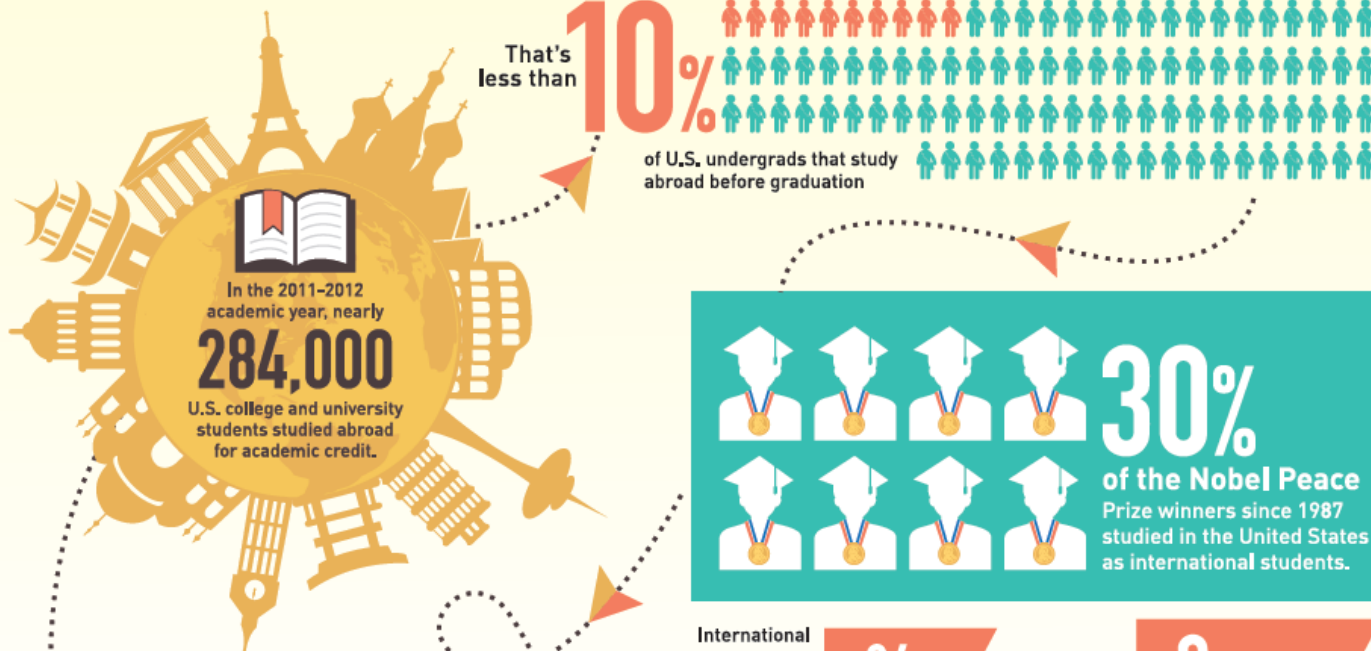


Building the future and supporting our local economies

Builds leadership for the global community

Essential for developing globally competent individuals

Fosters understanding and respect among people of diverse backgrounds and perspectives



International students and their dependents contributed

\$24 bn

to the U.S. economy in the 2012-2013 academic year.

3 jobs

are created for every 7 international students studying in the United States.

“Educational exchange is not merely one of those nice but marginal activities in which we engage in international affairs, but rather, from the standpoint of future world peace and order, probably the most important and potentially rewarding of our foreign-policy activities.”

J. William Fulbright, *The Price of Empire*

Sources: NAFSA: Association of International Educators, www.nafsa.org/economicvalue; NCES 2012 Digest of Education Statistics; Open Doors Report 2013



MappingtheNation.net

INSTITUTE OF
INTERNATIONAL
EDUCATION

LONGVIEW
FOUNDATION

Asia
Society[®]

Partnership for
Global Learning

NAFSA

Association of
International Educators

SISTER CITIES

BUILDING BRIDGES AND CULTIVATING UNDERSTANDING BETWEEN CULTURES

47 states have sister city relationships —1,847 relationships in 2012!

10 states represent over 1,000 connections between U.S. cities and cities around the world

CA TX FL IL
OH WA NY VA
NC CO

6 states with the largest number of sister city exchanges are also the states with 6 of the ten largest import/export economies in the U.S.

CA TX IL OH WA NY

136 countries have cities with Sister City relationships within the U.S. The countries/regions with the most U.S. sister city relationships are:

Mexico	Russia
Japan	Taiwan
China	South Korea
Germany	Israel
France	Ireland
Italy	

Sister Cities are relationships which create lifelong friendships that support peace and prosperity among communities through people-to-people "citizen diplomacy" and exchanges in culture, education, business, and municipal administration.



"The increasing interconnectivity of nations in today's global economy underscores the need for robust partnerships between communities around the world. Organizations like Sister Cities International foster such relationships, increasing mutual knowledge and understanding between cities and cultures."

President Barack Obama

"When President Eisenhower proposed the establishment of a program of affiliation between American and foreign cities on September 11, 1956, no one could have anticipated how successful it would become in creating imaginative and valuable exchanges in the fields of education, culture, youth, business, local government and professional expertise. All who have given of their time and talent in this effort can take great satisfaction from their accomplishments."

President Gerald Ford



Globalization of the Economy

Globalization is driving demand for an internationally competent workforce.

- 95% of consumers and 75% of the world's purchasing power is found outside U.S. borders = huge opportunity for growth.
- Map shows one in five jobs linked to international trade and 4 million Americans are employed by foreign businesses in our communities.
- High cost of missed opportunities.
- To be globally competitive, educated Americans must be globally competent.

Key Indicators

Economics

Education

Demographics

Total Population

% Change in Total Population

% of Total Population that is Foreign Born

% of Foreign-Born Population 2007-11
Estimate

Ancestry

Languages Spoken at Home: # of Speakers

Languages Spoken at Home: % Speaking

Total Languages other than English

African Languages

Arabic

Armenian

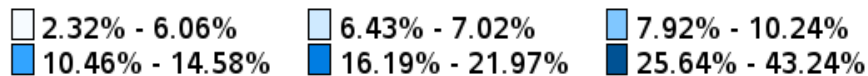
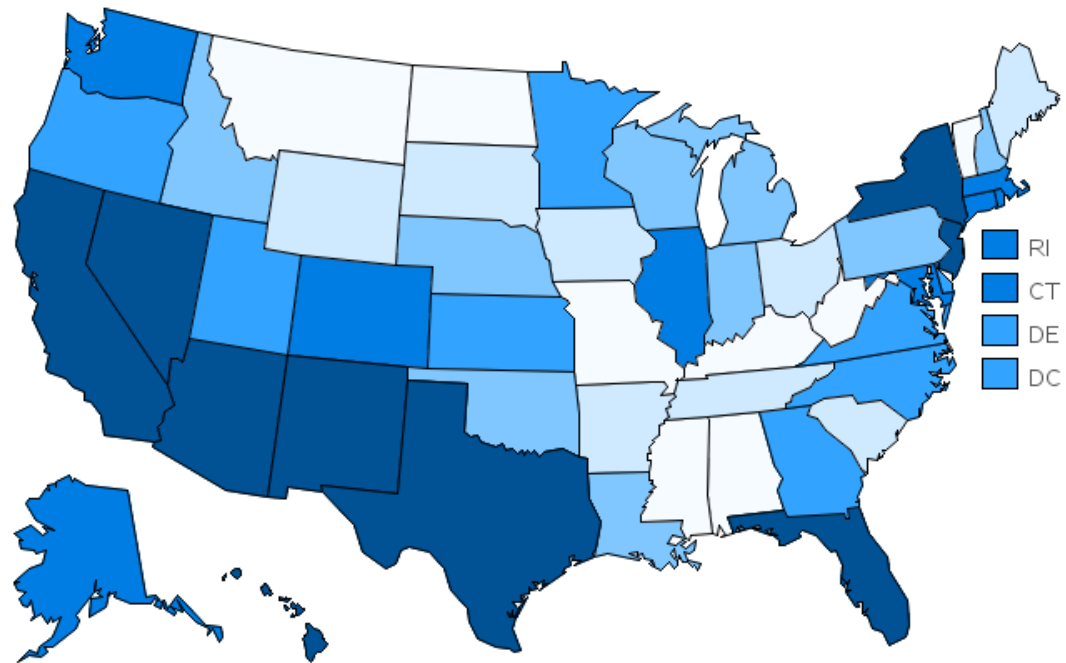
Chinese

English Only

French (Incl. Patois, Creole)

Native Languages of English Language
Learners

Total Languages other than English



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US Demographics

Languages Spoken at Home: % Speaking

Total Languages other than English

Key Indicators

Economics

Education

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Total Population

% Change in Total Population

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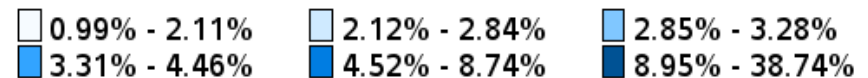
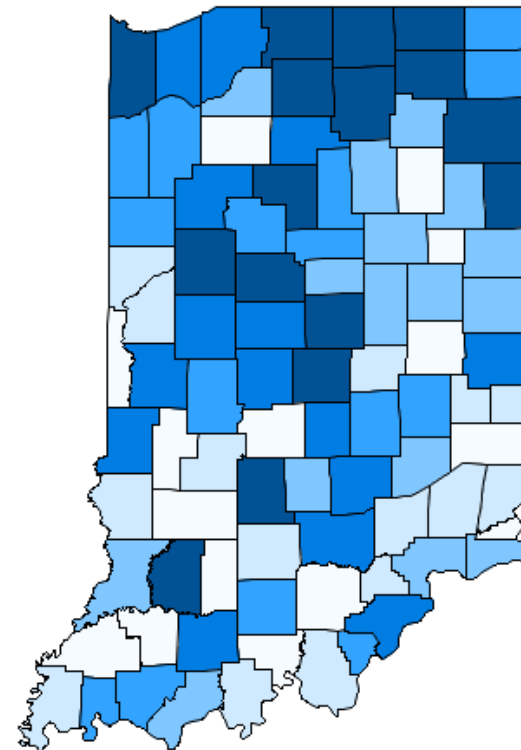
French (Incl. Patois, Creole)

Native Languages of English Language
Learners

Delve further
into most
common
international
languages:
for IN, Spanish
& Chinese

Total Languages other than English

Indiana



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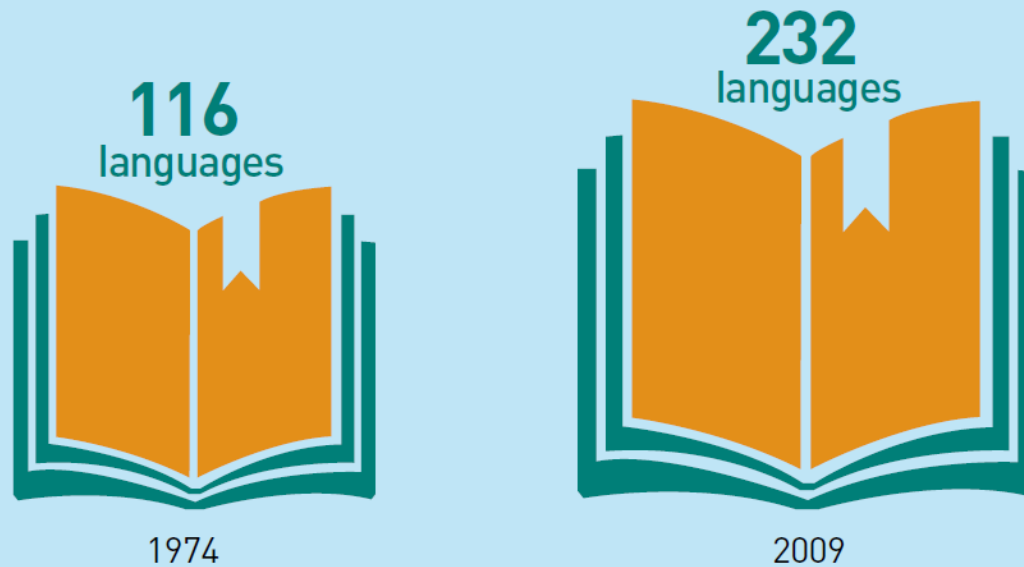
IN Demographics

Languages Spoken at Home: % Speaking

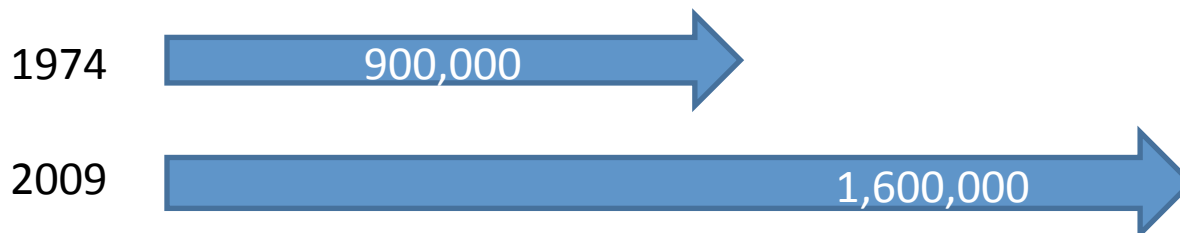
Total Languages other than English

Language Learning in the US is on the Rise

More languages are studied.



More students in higher education are studying languages than ever before.





The infographic features a large orange circle filled with a repeating pattern of small human figures. Inside this circle, the text '1.6 million' is prominently displayed in a large, bold, black font. Below it, in a smaller black font, is the text 'undergraduate language enrollments'. At the bottom of the orange circle is a smaller white circle containing the text 'Of these, only' in a small black font, followed by '17%' in a large, bold, black font. Below the white circle, the text 'are beyond the introductory level' is written in a small black font. The entire graphic is set against a light green background.

1.6 million

undergraduate language
enrollments

Of these, only

17%

are beyond the
introductory level

We are a “language rich” country in terms of the numbers of speakers of languages other than English who live here, but We are a “language poor” country when it comes to advanced expertise.

*Rosemary Feal, Executive
Director, Modern Languages
Association*

IN THE U.S.
only

1

high school student

in

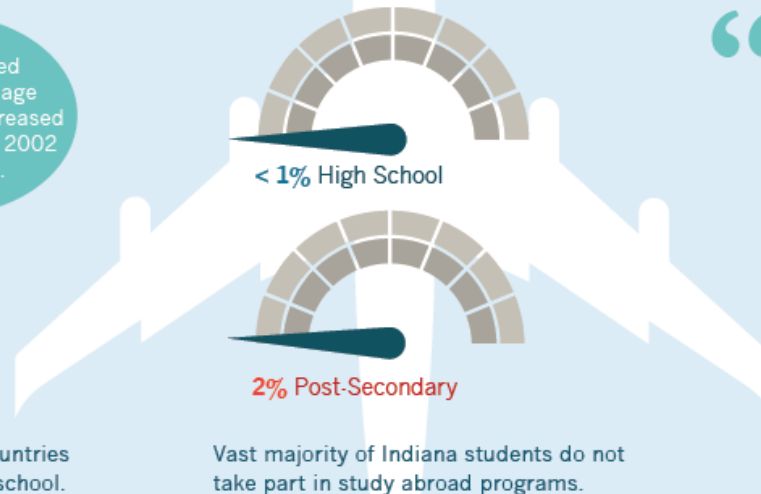
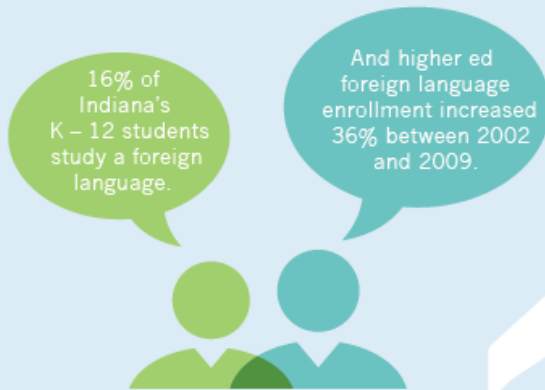


10,800

participates in a year
or semester *exchange program*

How are we preparing students?

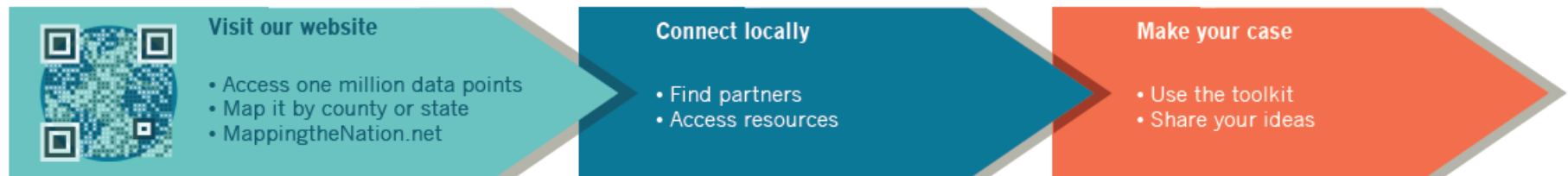
Schools can not yet meet community needs and workforce demands.



“Helping prepare our children to succeed in an increasingly fierce global marketplace is a goal we should all embrace.”

– John Engler
President of Business Roundtable and
Former Governor of Michigan

How do we plan for the future?



Students savvy with geospatial technologies, across all disciplines, are gaining employment worldwide: medical, environmental, transportation, planning, aerospace, software & development...

How are we helping Indiana students and educators? Gathering data and creating a plan!

World Languages

Teacher Preparation

Workforce Development

Afterschool/Extended Learning

Providing Additional Resources

Central Indiana Educational Service Center

Global Indiana, Consortium for International Exchange

Indiana Business Research Center

Indiana University Center for the Study of Global Change

Indiana Council on World Affairs

Indiana Council for the Social Studies

Indiana Council for Economic Education

Indiana Department of Education

Indiana State Library, IN State Data Center

IN Geographic Information Officer/Indiana Geographic Information Council

The Polis Center/SAVI (Indpls. Metro. Area Social Assets & Vulnerabilities Indicators)

INView, Purdue University

IN Spatial Data Portal, Indiana University

Geography Educators' Network of Indiana

YOU

THANK YOU!

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